

Appl. No. 10/632,565
Am'tt. dated September 6, 2006
Reply to Office Action of June 7, 2006

Atty. Ref. 81868.0101
Customer No. 26021

Remarks/Arguments

Reconsideration of this application is requested.

Claim Status

Claims 1-20 were presented. Claims 8-11 and 20, which are withdrawn from consideration as drawn to a non-elected invention, are canceled without prejudice. Claims 2 and 7 are also canceled without prejudice. Claims 1, 3 and 5 are amended. Claims 1, 3-6 and 12-19 are now pending.

Claim Rejections - 35 USC 103

Claims 1-3, 5-7 and 12-19 are rejected under 35 USC 103(a) as obvious over Han (US 6,731,588) in view of Kotone (US 3,891,470). In response, independent claims 1 and 5 are amended to recite that the annular space in which the balance balls are accommodated *is a sealed space containing a volatile rust preventing agent in vaporized state*. In view of this amendment, claims 2 and 7 are canceled without prejudice.

The present invention provides an automatic balancing device having a uniform and thin layer of a volatile rust preventing agent. In particular, a plurality of balance balls have a film of the volatile rust preventing agent and are accommodated in a sealed annular space containing the volatile rust preventing agent in a vaporized state. The film is formed by attaching the vapor of the rust preventing agent, and thus the film is formed in a uniform and thin film shape. Thus, even though the film is not formed in advance, it is still formed on the balance balls by filling the annular space with the vaporized volatile rust preventing agent.

Han discloses a rigid body 430 made of, or coated with, an antioxidant material. However, Han does not formation of a uniform and thin layer of antioxidant material on the surface of rigid body 430. The Action asserts that such teaching is provided by Kotone, which mentions volatile corrosion inhibitors for iron and steel material, such as diisopropylamine nitrite (col. 1, line 37-44).

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However, Kotone clearly does not disclose use of such substances in a vaporized state to form a uniform and thin film on balance balls, as is required by claims 1 and 5 as amended. To the contrary, Kotone specifically states at col. 1, lines 50-53, that "a volatile corrosion inhibitor for iron and steel has not been known yet which has an outstanding corrosion inhibiting effect in vapor phase". Therefore, use of vaporized rust preventing agents of the present invention, such as cyclohexylamine nitrite, diisopropylamine nitrite, or cyclohexylammonium cyclohexylcarbamate, to form a uniform and thin film on balance balls, as recited in claims 1 and 5 is not obvious over Han and Kotone.

Claims 1, 4-6 and 12-19 are further rejected as obvious over Yamaguchi (US 6,525,441) in view of Han, Kotone and Shiraki (US 5,401,571). Yamaguchi and Shiraki do not remedy the deficiencies of Han and Kotone discussed above. In this regard, applicant notes that the Action does not assert that either Yamaguchi or Shiraki discloses a vaporized volatile rust preventing agent contained in a sealed space to form a uniform thin film on balance balls, and that these grounds of rejection are not cited against claims 2 and 7, whose limitations were added to claims 1 and 5. Thus, claims 1 and 5 are not obvious over Yamaguchi in view of Han, Kotone and Shirake.

For these reasons, the rejections of claims 1 and 5, and claims 3, 4, 6 and 12-19 dependent thereon, should be withdrawn.

Conclusion

This application is now in condition for allowance. The Examiner is invited to telephone the undersigned to resolve any issues that remain after entry of this amendment.

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14:30

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Any fees due with this response may be charged to our Deposit Account No.
50-1314.

Respectfully submitted,

HOGAN & HARTSON L.L.P.

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